

UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF CALIFORNIA

PACIFIC COAST FEDERATION OF
FISHERMEN’S ASSOCIATIONS, *et al.*,

Plaintiffs,

v.

WILBUR ROSS, *et al.*,

Defendants.

No. 1:20-CV-00431-DAD-EPG

ORDER REQUIRING SUBMISSION OF
SUPPLEMENTAL INFORMATION ON
REMAINING PRELIMINARY
INJUNCTION ISSUES

(Doc. No. 81)

INTRODUCTION

Plaintiffs in the above-captioned action, *Pacific Coast Federation of Fishermen’s Associations v. Ross*, 1:20-CV-00431-DAD-EPG (*PCFFA*), are a coalition of six environmental organizations led by PCFFA (collectively, “PCFFA”). A closely related case, *California Natural Resources Agency v. Ross*, No. 1:20-CV-00426-DAD-EPG (*CNRA*), is also pending before the undersigned. In *CNRA*, plaintiffs are the People of the State of California, California’s Natural Resources Agency, and California’s Environmental Protection Agency (collectively, “California”).

Both sets of plaintiffs bring claims against the National Marine Fisheries Service (NMFS), the U.S. Fish and Wildlife Service (FWS), the U.S. Bureau of Reclamation (Reclamation), and

1 various official representatives of those agencies. (*CNRA*, Doc. No. 51, First Amended
2 Complaint (FAC); *PCFFA*, Doc. No. 52, FAC.) Plaintiffs in both cases challenge the adoption by
3 NMFS and FWS, respectively, of a pair of “biological opinions” (BiOps) issued in 2019 pursuant
4 to the Endangered Species Act (ESA), 16 U.S.C § 1531 *et seq.*, regarding the impact on various
5 ESA-listed species of implementing Reclamation’s updated plan for the long-term operation of
6 the Central Valley Project (CVP) and the State Water Project (SWP) (collectively, “Water
7 Projects” or “Proposed Action”). FWS’s 2019 BiOp (2019 FWS BiOp) addressed the impacts of
8 the Proposed Action on Delta smelt, while NMFS’s 2019 BiOp (2019 NMFS BiOp) addressed
9 the impacts of the updated plan to, among others, three species of salmonids: winter-run Chinook
10 salmon (winter-run) and spring-run Chinook salmon (spring-run), and California Central Valley
11 steelhead (CCV steelhead). All plaintiffs allege that NMFS and FWS violated the Administrative
12 Procedure Act (APA), 5 U.S.C. § 706, in various ways by concluding that the Water Projects
13 would not jeopardize the continued existence of the ESA-listed species addressed in each
14 biological opinion. Both sets of plaintiffs also bring claims against Reclamation under the ESA
15 for unlawfully relying on the 2019 BiOps in formally adopting and implementing the Proposed
16 Action, and the National Environmental Policy Act (NEPA), 42 U.S.C. § 4321 *et seq.*¹

17 In an order issued May 11, 2020, the court resolved certain aspects of overlapping
18 requests for preliminary injunctive relief filed by *PCFFA* and California, namely issues related to
19 species impacts caused by the Water Projects’ export pumping operations in the southern portion
20 of the Sacramento-San Joaquin Delta (Delta) as well as potential impacts related to the operation
21 of New Melones Dam on the Stanislaus River. (*CNRA*, Doc. No. 106; *PCFFA*, Doc. No. 173
22 (Delta/Stanislaus PI Order).) However, in part in order to expedite the issuance of its May 11,
23 2020 ruling, the court held in abeyance certain issues raised in *PCFFA*’s motion for preliminary
24 injunction (*PCFFA* PI Motion) concerning instream temperature management measures aimed at
25 protecting winter-run and spring-run eggs and juveniles in the reaches of the Upper Sacramento

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27 ¹ California’s complaint in *CNRA* also alleges that Reclamation has violated the APA by failing
28 to comply with measures California put in place under the California Endangered Species Act
(CESA) to protect Longfin smelt, compliance with which California alleges is required by various
provisions of federal law.

River below Shasta and Keswick Dams. Here, the court will not delve into all of the details of the Upper Sacramento River temperature management scheme but, rather, reviews only the background and preliminary analysis necessary to: (1) explain why it will hold this remaining issue in abeyance for an additional, brief period of time; and (2) articulate the additional information it requires in order to complete its evaluation of PCFFA's motion for a preliminary injunction.

FACTUAL BACKGROUND

A. Winter-Run, Spring-Run and Shasta Dam

Winter-run are listed as endangered under the ESA. (*PCFFA*, Doc. No. 85-2 (2019 NMFS BiOp) at 65.) Before construction of Shasta Dam, the winter-run had access to the Sacramento River upstream of Shasta Dam's present location and the upper tributaries where springs provided cold water throughout the summer. (*Id.* at 69–70.) Shasta Dam and Keswick Dam (a smaller, regulating dam that sits nine miles downstream of Shasta) block access to this extensive former spawning habitat. (*Id.* at 70.) As a result, the only population of winter-run spawns exclusively in the reaches of the Upper Sacramento River below Keswick Dam and this "single population . . . has been supported by cold water management operations at Shasta Dam." (*Id.*) Generally, winter-run adults migrate upstream through the San Francisco Bay-Delta region during the winter and spring months and spawn in the upper Sacramento river in the summer months. (*Id.* at 70–71.)² The ocean stage of the winter run life cycle typically lasts three years. (*PCFFA*, Doc. No. 85-18 (2009 NMFS BiOp) at 87.)

Spring-run are listed as threatened under the ESA. (2019 NMFS BiOp at 79.) They are somewhat more geographically widespread than winter-run, with populations at varying levels of viability known to spawn on several tributaries to the Sacramento River. (*Id.* at 89.) The ocean stage of the spring-run life cycle typically lasts one to five years. (*Id.* at 88.) Spring-run adults

² According to the 2019 NMFS BiOp: "Sacramento River winter-run Chinook salmon are particularly important among California's salmon runs because they exhibit a life-history strategy found nowhere else in the world. These Chinook salmon are unique because they spawn during the summer months when air temperatures usually approach their warmest. As a result, winter-run Chinook salmon require stream reaches with cold-water sources to protect their incubating eggs from the warm ambient conditions." (*Id.* at 65.)

1 typically migrate upstream, unsurprisingly, in the spring, from January to June. (*Id.* at 89.) In at
2 least one location (Clear Creek), adult spring-run “hold” for several months in the mid-late
3 summer before spawning in September and October. (*Id.* at 85.) Some spawning also occurs in
4 the mainstem Sacramento River (*id.* at 89), although the numbers of fish spawning there have
5 generally been limited in recent years. (*Id.* at 91.) Juvenile spring-run exhibit varied rearing
6 behavior and outmigration timing. Some juveniles may reside in upstream areas for 12–16
7 months (these individuals are characterized as “yearlings”), while some may migrate to the ocean
8 shortly after hatching as “young-of-the-year.” (*Id.* at 85.)

9 Shasta Dam is equipped with a temperature control device (TCD) that allows Reclamation
10 to control the temperature of water released from the Dam. (*PCFFA*, Doc. No. 85-12 (2019
11 Biological Assessment (BA)) at 4-26.) “The TCD has four levels of gates from which water can
12 be drawn.” (*Id.*) During mid-winter and early spring, Reclamation uses the highest possible
13 elevation gates to draw from the upper levels of the lake and conserve the deeper, colder water.
14 (*Id.* at 4-27.) During late spring and summer, as Shasta Reservoir elevation decreases,
15 Reclamation progresses to open deeper gates to release the colder water. (*Id.*)

16 Generally, temperature management below Shasta/Keswick involves the release of cold
17 water to meet target temperatures at various temperature compliance points (TCP) along the
18 Sacramento River. Keswick Dam is located at River Mile 302. (2019 BA at 2-13.³) The furthest
19 upstream TCP is Clear Creek (about 10 river miles below Keswick), then Airport Road Bridge
20 (15 river miles below Keswick), Balls Ferry (25 river miles below Keswick), and Bend Bridge
21 (44 river miles below Keswick). (*Id.*) The general purpose of these temperature compliance
22 points is to keep water temperatures cool enough to avoid damaging salmon eggs, a phenomenon
23 known as “temperature-dependent mortality.” (*See* BA 4-29; *PCFFA*, Doc. No. 82, Declaration
24 of Dr. Jonathan Rosenfield (Rosenfeld Decl.) at ¶ 138.)

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27 ³ While the parties have submitted excerpts from the 2019 BA, the court here references pages
28 from the complete document, which is available at: <https://www.usbr.gov/mp/bdo/docs/ba-final-biological-assessment.pdf> (last visited May 15, 2020).

B. 2009 NMFS BiOp & RPA

On June 4, 2009, NMFS issued, and Reclamation accepted, a BiOp that concluded that “the long-term operations of the CVP and SWP are likely to jeopardize the continued existence” of various listed species, including winter-run and spring-run, and “destroy or adversely modify” those species’ critical habitats. (2009 NMFS BiOp at 575.) Specifically, as relevant to this order, the 2009 NMFS BiOp explained that:

Water operations result in elevated water temperatures that have lethal and sub-lethal effects on egg incubation and juvenile rearing in the upper Sacramento River. The immediate operational cause is lack of sufficient cold water in storage to allow for cold water releases to reduce downstream temperatures at critical times and meet other project demands. This elevated temperature effect is particularly pronounced in the Upper Sacramento for winter-run and mainstem spring-run, and in the American River for steelhead. The RPA includes a new year-round storage and temperature management program for Shasta Reservoir and the Upper Sacramento River, as well as long-term passage prescriptions at Shasta Dam and re-introduction of winter-run into its native habitat in the McCloud and/or Upper Sacramento rivers.

(*Id.* at 576–77.)

As required under the ESA, *see* 16 U.S.C. §§ 1536(a)(2), (b)(3)(A), the BiOp included a “Reasonable and Prudent Alternative” (2009 RPA) designed to allow the projects to continue operating without causing jeopardy to the species or adverse modification to its critical habitat. (*Id.* at 575–671). Most relevant here, for the summer, the 2009 RPA required Reclamation to develop a temperature management plan and implement Shasta Dam operations to achieve daily average water temperatures not in excess of 56° between Balls Ferry and Bend Bridge from May 15 through September 30 for the protection of winter-run, and not in excess of 56° between Balls Ferry and Bend Bridge from October 1 through October 31 for the protection of spring-run in the mainstem Sacramento River “whenever possible.” (*Id.* at 601.) The 2009 RPA acknowledged that “extending the range of suitable habitat by moving the compliance point downstream from Balls Ferry” must be balanced against the need to conserve storage in order to accumulate a sufficient cold water pool for use during the subsequent temperature management season. (*Id.* at

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602.) The 2009 RPA also provided drought exception procedures and contingency plans if these temperatures could not be achieved. (*Id.* at 600.)⁴

C. Loss of Temperature Control in 2014 & 2015; Reinitiation of Consultation

In 2014 California was in the third year of a drought. (2019 NMFS BiOp at 69.) According to PCFFA's expert, Dr. Rosenfield, early in 2014, Reclamation moved the temperature compliance point "far upstream above Clear Creek's confluence with the Sacramento River," predicting it could provide required water temperatures to that point. (Rosenfeld Decl. at ¶ 171.) However, despite initial modeling that indicated compliance was possible and despite Reclamation obtaining various waivers from state Delta outflow requirements Reclamation asserted were necessary to maintain appropriate water temperatures, river temperatures at the revised temperature control point nonetheless exceeded 56°F. (*Id.*) This resulted in temperature dependent egg mortality in 2014 of 77 percent (*id.*) and extremely poor egg-to-fry survival (measured as the percentage of eggs that survived to produce fry capable of passing Red Bluff Diversion Dam on the lower Sacramento River) of approximately four percent. (2019 NMFS BiOp at 69) (citations omitted).

The story was much the same in 2015. (*See* Rosenfeld Decl. at ¶ 172.) Indeed, egg-to-fry survival that year was the lowest on record (approximately three percent), "due to the inability to release cold water from Shasta Dam in the fourth year of the drought." (*Id.*) As a result, and as the 2019 NMFS BiOp explains, "[w]inter-run [] returns in 2016 to 2018 were low, as expected, due at least in part to poor in-river conditions for juveniles from brood year 2013 to 2015 during drought years." (*Id.*) Although "[t]he 2018 adult winter-run return (2,639) improved from 2017 (977)," it was "dominated by hatchery-origin fish." (*Id.*)

NMFS acknowledged the precarious situation of the winter run in a 2016 request for re-initiation of the inter-agency consultation process required by the ESA, *see* 16 U.S.C. § 1536, stating: "recent data demonstrate []extremely low abundance levels for endangered Sacramento

⁴ The 2009 Shasta Dam RPA also created long-term performance measures related to Reclamation's success at maintaining appropriate temperature control and the volume of stored water carried over through the winter into the subsequent season. (*Id.* at 592.)

1 River winter-run. . . .” (*PCFFA*, Doc. No. 85-5 at 2.) NMFS also drafted an amendment to the
 2 2009 RPA actions related to Upper Sacramento temperature management. (*PCFFA*, Doc. No. 85-
 3 8.) That draft RPA amendment called for Reclamation to operate Shasta Dam to ensure
 4 temperatures did not exceed 56.0°F daily average temperature at a compliance location between
 5 Balls Ferry and Bend Bridge from the start of winter-run spawning, based on aerial redd⁵ or
 6 carcass⁶ surveys, through 100 percent winter-run “emergence” (i.e., when the eggs hatch). (*Id.* at
 7 18.) The draft also called for the maintenance of 56.0°F daily average temperatures at the same
 8 compliance location through October 31 for protection of mainstem spring run “whenever
 9 possible.” (*Id.*) Among other things, the draft also proposed to place strict limits on temperature
 10 dependent mortality below Shasta Dam. (*Id.* at 14 (proposing that temperature dependent
 11 mortality should not exceed 30% in critically dry years, 8% in dry years, and 3% in below
 12 normal, above normal, and wet years).) Reclamation responded to that proposal by indicating
 13 that additional work would be needed to ensure that the objectives identified by NMFS were
 14 “feasible, scientifically sound, and address[ed] impacts to the other requirements and beneficial
 15 uses of the CVP and SWP.” (*PCFFA*, Doc. No. 85-9 at 2.)

16 The 2019 NMFS BiOp describes how temperature management was actually implemented
 17 from 2016 through the issuance of the 2019 BiOp as follows:

18 On August 2, 2016, Reclamation requested using the adaptive
 19 management provision in the NMFS 2009 Opinion related to Shasta
 20 Reservoir operations. The basis for this request included recent,
 21 multiple years of drought conditions, new science and modeling, and
 22 data demonstrating the low population levels of endangered winter-
 23 run Chinook salmon and threatened CV spring-run Chinook salmon.
 24 In response, Reclamation implemented a 2017 pilot approach that
 25 applied new science on the thermal tolerance of Chinook salmon
 26 eggs (Martin et al. 2016) and which was designed to efficiently
 27 utilize Shasta Reservoir’s limited supply of cold water by basing the
 28 spatial distribution of protective temperatures on the within-season
 spatial distribution of winter-run Chinook salmon redds. The intent
 was to provide daily average water temperatures of 53°F or less to
 the Clear Creek gauging station as a surrogate for the furthest
 downstream redds. The 2009 RPA requirement was a daily average

5 Salmon eggs incubate for weeks to months in gravel nests, known as redds. (Rosenfeld Decl. at ¶ 136.)

6 Chinook salmon die after spawning. (Rosenfeld Decl. at ¶ 136.)

temperature of 56°F or less at compliance locations between Balls Ferry and Bend Bridge, which are not based on the within-season redd distribution. [T]he 2017 pilot approach, along with one of the wettest years on record (in water year 2017), resulted in an estimated 44 percent egg-to-fry survival, one of the highest estimates on record. The pilot approach was implemented in 2018 and . . . 2019. In July 2019, CDFW aerial redd surveys indicated redd distribution was further downstream than the targeted temperature management location at CCR. Per the request of the fish agencies, and as a result of Reclamation's temperature modeling that indicated the operation was feasible, on August 7, 2019, Reclamation initiated temperature management to target 53.5°F at the Airport Road location.

(2019 NMFS BiOp at 173.)

D. The 2019 NMFS BiOp

Further consultation between NMFS and Reclamation, including at one point the issuance of a draft "jeopardy" opinion by NMFS (*PCFFA*, Doc. No. 85-13), resulted in revisions to the final Proposed Action and ultimately to the issuance by NMFS of a "no jeopardy" biological opinion. (*See generally* 2019 NMFS BiOp.) The final Proposed Action implements a tiered Shasta temperature management strategy designed, at least facially, to account for the real-time spatial and temporal distribution of redds to attempt to conserve cold water for use when it is most needed. The operation manager of Reclamation's Central Valley Office, Kristin White, describes this tiered approach generally as follows.

The tiered strategy recognizes that cold water is a scarce resource and that additional measures may be required when hydrology and meteorology do not provide sufficient cold water to avoid temperature dependent mortality throughout the entire temperature management period. The tiered strategy is intended to optimize use of cold water at Shasta for Winter-Run Chinook Salmon eggs based on life-stage-specific requirements during the temperature management season.

(*PCFFA*, Doc. No. 119-1, Declaration of Kristin White at ¶ 23 (citing BA at 4-31 to 4-32).)

NMFS concluded that the Clear Creek TCP serves as a reliable surrogate for controlling temperatures at the farthest downstream redd location. (*See* 2019 NMFS BiOp at 173, 237.) Although historically spawning was expected to begin in April, in recent years, the onset of spawning has been later—into May and June. (2019 NMFS BiOp at 243–4.) The tiered strategy adopts the view that using cold water too early (i.e., before redds are deposited) and/or to meet a

TCP too far downstream of the actual location of redds, “wastes” cold water that is needed later in the season during the critical incubation season. Thus, the tiered strategy “allows for strategically selected temperature objectives,” based on projected total storage, the available “cold water pool,” meteorology, and downstream conditions (which can influence how much water Reclamation must release for other reasons), among other things. (2019 BA at 4-28.)

The temperature targets for each “Tier” are as follows:

- In Tier 1 years, Reclamation will operate to maintain daily average temperatures of 53.5°F at Clear Creek throughout the entire temperature management season (May 15 through Oct 30). (2019 NMFS BiOp at 241–2.)
- In Tier 2, Reclamation will target 53.5°F during the “critical egg incubation period.” (*Id.* at 242.)
- Tier 3 is the proposed operation when the cold water pool in Shasta Reservoir on May 1 is less than 2.3 million acre-feet or when modeling suggests that maintaining 53.5°F at the Clear Creek TCP would have higher mortality than a warmer temperature. (*Id.*) In a Tier 3 years, Reclamation would target 53.5°–56° degrees during the critical egg incubation period and would consider “intervention measures.”⁷ (*Id.*) Reclamation would not allow temperatures to exceed 56° but would decrease temperatures to below that during the periods of greatest temperature stress on the species. (*Id.*)
- Tier 4 conditions are “defined by mid-March storage and operations forecasts of Shasta Reservoir total storage less than 2.5 million acre-feet at the beginning of May, or if Reclamation cannot meet 56°F at Clear Creek gauge.” (*Id.* at 243.) In this scenario, “Reclamation proposes to initiate discussions with FWS and NMFS on potential intervention measures to address low storage conditions that continue into April and May.” (*Id.* at 243.)

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⁷ “Intervention measures” would include “consulting with [FWS and NMFS, increasing hatchery intake, adult rescue, and juvenile trap and haul.” (*Id.* at 249.) NMFS notes in the 2019 NMFS BiOp that “any benefits from implementation of these measures is not included in results presented [therein] due to their inability to be characterized by the modeling.” (*Id.* at 243.)

1 There is no dispute between the parties that this year, circumstances place the Water Projects into
 2 Tier 3. (Tr. 101.)

3 NMFS reviewed the tiered management strategy in some detail in the 2019 NMFS BiOp
 4 and summarized its own evaluation of the impacts that it anticipated would result from operations
 5 under each of these Tiers.

- 6 • In Tier 1 years, NMFS expects an average modeled temperature dependent egg survival
 7 of 94–95 percent. (*Id.* at 241–2.) Reclamation is expected to operate under Tier 1 in 68
 8 percent of years. (*Id.*)
- 9 • In Tier 2 years, average modeled temperature dependent egg survival is anticipated to
 10 be 85–88, which is expected to occur in 17 percent of years. (*Id.* at 750.)
- 11 • Modeling suggests Tier 3 would be in place for 7–15 percent of years. (*Id.* at 243,
 12 248.) The 2019 NMFS BiOp indicates that temperature conditions in a Tier 3 year
 13 would result in an estimated temperature-dependent mortality of between 28 percent
 14 and 34 percent according to the two dominant modeling approaches, respectively.
 15 (*Id.*)
- 16 • NMFS expects Tier 4 conditions to exist in five to seven percent of years. (*Id.* at 252.)
 17 Modeling indicates that during Tier 4 years, 53.5°F is exceeded on 86 percent of days
 18 that fall within the temperature management period. (*Id.*) “This exposure corresponds
 19 to an estimated temperature-dependent mortality in Tier 4 years of between 79 percent
 20 and 81 percent.” (*Id.*)

21 Reclamation’s Proposed Action, as analyzed in the 2019 NMFS BiOp, plans for certain
 22 other measures designed with an intent to benefit winter-run. Within 18 months of adoption of
 23 the Proposed Action, Reclamation will develop a “voluntary toolkit to be exercised at the
 24 discretion of Reclamation, DWR, other agencies, participating water users, and/or others for the
 25 operation of Shasta Reservoir during critical hydrologic year types.” (2019 BA at 4-89.) Among
 26 other things, the Proposed Action notes a Resolution adopted by the Sacramento River Settlement

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(SRS) Contractors⁸, pursuant to which, during dryer water years (Tier 3 and Tier 4), the SRS Contractors will meet and confer with Reclamation, NMFS, and other agencies as appropriate to determine if there is any role for the SRS Contractors in connection with Reclamation’s operational decision-making for Shasta Reservoir annual operations. (*Id.*) While a pre-determined reduction (25%) in deliveries to the SRS Contractors is automatically triggered in certain dry years under their “settlement” contracts, other actions may be considered, including: (1) modifying the scheduling of spring diversions by the SRS Contractors; (2) voluntary, compensated water transfers by the SRS Contractors subject to Reclamation approval; and (3) delayed SRS Contractor diversion for rice straw decomposition during the fall months. (*Id.*) The Proposed Action also includes non-flow measures such as spawning and rearing habitat restoration, construction of lower intakes in critical areas, and other fish passage projects. (*Id.* at 4-40 to 4-42.)

Overall, however, NMFS conceded in its 2019 BiOp that

The proposed action will result in ongoing adverse effects to Sacramento River winter-run Chinook salmon. The most significant adverse effects, as described throughout this Opinion, are temperature dependent egg mortality that will occur in all of the Summer Cold Water Pool Management tier types, but most significantly in tier 3 and 4 years.

(2019 NMFS BiOp at 753.)

NMFS acknowledged that it had previously concluded in 2009 that Water Project operations would “result[] in an appreciable reduction in both the survival and recovery of Sacramento River winter-run Chinook salmon” and therefore developed the 2009 NMFS BiOp RPA. (*Id.*) But in its 2019 BiOp NMFS reasoned that the Proposed Action “includes many components that were developed through an iterative process” that

⁸ The SRS Contractors are “individuals and entities . . . that individually hold settlement agreements (the SRS Contracts) with [] Reclamation.” (2019 NMFS BiOp at 8.) The SRS Contractors hold “senior” rights that pre-date the CVP and SWP, and thus Reclamation’s “without action” scenarios assume these senior rights holders would continue to divert water under their pre-CVP/SWP rights, because that is what they previously did in absence of the operation of the CVP and SWP. (BA 3-17.) Accordingly, Reclamation considers at least certain aspects of these diversions to be part of the “environmental baseline” for various environmental analyses. (*See id.*)

1 included NMFS sufficiency reviews, draft effects analyses that
 2 identified areas where the action was likely to place the individuals
 3 and the ESU at high risk, many director meetings where these high
 4 risk situations were elevated and Reclamation changed the proposed
 5 action to reduce these risks. . . . [T]his iterative process resulted in
 6 Reclamation identifying specific actions that would improve Shasta
 7 Storage, a commitment to stay within Summer Cold Water
 Management Tiers, the development of Upper Sacramento
 Performance Metrics and four and eight year independent panel
 reviews, a financial commitment to reintroduction work on Battle
 Creek, Delta Cross Channel operational commitments, and the Delta
 Performance Objectives to cap juvenile loss at the export facilities at
 the rates experienced over the past 10 years.

8 (*Id.* at 753–54.) NMFS noted that some aspects of the 2009 RPA were not “carried forward” but
 9 that Reclamation “adopted” the goals and objectives of those RPA actions; that Reclamation
 10 made clear funding commitments to support a plan to create a second population of winter run;
 11 that actions in other parts of the ecosystem will help control losses in the Upper Sacramento
 12 River. In sum, the 2019 BiOp states:

13 NMFS expects that despite ongoing adverse effects of the Central
 14 Valley Project on individuals and their respective populations, and
 15 the continued and significant adverse effects that are part of the
 16 environmental baseline such as the loss of historical habitat related
 to the physical presence of Keswick and Shasta Dams, the proposed
 action also includes measures intended to maintain the abundance,
 productivity, and diversity, and may improve the spatial structure of
 the ESU.

17 ***

18 After considering its current rangewide status, the environmental
 19 baseline within the action area, the effects of the proposed action,
 20 effects of any interrelated and interdependent actions, and
 21 cumulative effects, NMFS concludes that the proposed action is not
 likely to appreciably reduce the likelihood of both the survival and
 recovery of the Sacramento River winter-run Chinook salmon ESU.

22 (*Id.* at 755–56.)

23 **E. Incidental Take Statement**

24 As part of the 2019 NMFS BiOp, NMFS included an Incidental Take Statement (ITS) that
 25 serves to insulate the Proposed Action against ESA liability, so long as its terms are complied
 26 with. 16 U.S.C. § 1536(o); *Aluminum Co. of Am. v. Adm’r, Bonneville Power Admin.*, 175 F.3d
 27 1156, 1159 (9th Cir. 1999). As the ITS indicates, the Proposed Action creates a variety of
 28 stressors, some of which are expected to result in the incidental take of listed species, including

water temperature in the upper Sacramento River. (2019 NMFS BiOp at 799.) The ITS articulates the “anticipated” level of take for each Tier level and then indicates that the anticipated level of take will be exceeded if there are:

- Two consecutive years of egg-to-fry survival of less than 15 percent followed by a third year of less than 21 percent based on fry production at Red Bluff Diversion Dam.
- Two consecutive years where temperature-dependent egg mortality modeled from actual operations exceeds the average plus one standard deviation for the tier determined in the annual temperature management plan and egg-to-fry survival is less than average egg-to-fry survival for the tier. Specifically:
 - Under a Tier 1 year, take would be exceeded if, in two consecutive years, temperature-dependent mortality exceeds 15 percent (average of 6 percent plus one standard deviation of 9) and egg-to-fry survival is less than 29 percent.
 - Under a Tier 2 year, take would be exceeded if, in two consecutive years, temperature-dependent mortality exceeds 31 percent (average of 15 percent plus one standard deviation of 16) and egg-to-fry survival is less than 21 percent.
 - Under a Tier 3 year, take would be exceeded if, in two consecutive years, temperature-dependent mortality exceeds 65 percent (average of 34 percent plus one standard deviation of 31) and egg-to-fry survival is less than 21 percent.

(*Id.* at 801–802.)

DISCUSSION

As noted in this court’s Delta/Stanslaus PI Order, *PCFFA* has requested a broad preliminary injunction “temporarily setting aside” the 2019 BiOps and prohibiting the Federal Defendants from implementing or taking any actions in reliance on either the 2019 FWS BiOp or the 2019 NMFS BiOp, including prohibiting Reclamation from implementing the Proposed Action in reliance on those BiOps. (*PCFFA*, Doc. No. 81-1 at 2–3.) *PCFFA* has also requested that the court order the Federal Defendants to instead adhere to the operational regime for the Water Projects authorized pursuant to the previously-controlling BiOps issued in 2008 and 2009 by FWS and NMFS, respectively, until this court can resolve the merits of *PCFFA*’s claims asserted in this pending action. (*Id.* at 2.)

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1 The court is not yet convinced that such wide-ranging relief is justified based upon the
 2 present record before it. First, the Delta/Stanslaus PI Order has substantially narrowed the focus
 3 of the court's inquiry, leaving only PCFFA's assertions that salmonids would be harmed by
 4 operations in the Upper Sacramento River under the 2019 NMFS BiOp this coming summer and
 5 fall.⁹ The court notes that the Proposed Action and the 2019 NMFS BiOp cover a broad
 6 geographic area and a wide range of Water Project operations that stretch far beyond the
 7 remaining aspects of PCFFA's motion, including operations in the Trinity River and American
 8 River watersheds, operation of the Delta Cross Channel, and certain operations in the Sacramento
 9 River watershed not directly implicated by temperature management of the Upper Sacramento, to
 10 name a few. (*See generally* 2019 NMFS BiOp.) PCFFA has simply failed to address many
 11 aspects of the Proposed Action in their pending motion, let alone make a showing that an
 12 injunction as to all aspects of the Proposed Action would be warranted, lawful, or beneficial to
 13 any party or species at issue.

14 By the same token, however, the court does not agree with the Federal Defendants'
 15 argument, which they emphasized at the May 7, 2020 hearing on the PI motions, that the breadth
 16 of PCFFA's request warrants outright denial of the remaining aspects of its motion for injunctive
 17 relief. (5/7/2020 Final Transcript (Tr.) at 97.) An injunction must be narrowly tailored to avoid
 18 the identified irreparable harm. *Nat'l Wildlife Fed'n v. Nat'l Marine Fisheries Serv.*, 886 F.3d
 19 803, 823 (9th Cir. 2018). It would seem obvious that any such tailoring must be accomplished
 20 based upon the current circumstances, *see, e.g., A&M Records, Inc. v. Napster, Inc.*, 239 F.3d
 21 1004, 1027 (9th Cir. 2001), as amended (Apr. 3, 2001) (remanding overbroad preliminary
 22 injunction for further tailoring through sharing of information between parties), so long as the
 23 parties' due process rights are preserved in doing so. This order is intended, in part, to address
 24 the latter concern by requiring PCFFA to more clearly articulate with specificity the injunctive
 25 relief it seeks.

27 ⁹ Because the 2019 FWS BiOp is focused exclusively on the impact of Delta operations on Delta
 28 smelt, there is therefore presently no basis for the imposition of additional injunctive relief related
 to the 2019 FWS BiOp.

1 The court also observes that it approaches the remaining issues posed by the pending
 2 motion with great caution. This is an incredibly complex regulatory arena. As discussed above,
 3 two federal agencies with extensive and long-running expertise—NMFS (in fisheries) and
 4 Reclamation (in Water Project operations)—have struggled for many years to identify and
 5 develop a regulatory regime that is both sufficiently protective of the impacted species and legally
 6 and practically feasible. In prior years of extended drought, these efforts resulted in what all
 7 parties appear to characterize as a disaster: the near extirpation of two brood years (2014 and
 8 2015) of the critically endangered winter-run. These losses occurred at least in part because
 9 Reclamation “lost control” of temperatures in the Upper Sacramento River. From 2016 through
 10 2019, NMFS and Reclamation (along with others) have both battled and cooperated over the
 11 appropriate way forward. The result of this back-and-forth is before the court in the form of the
 12 2019 NMFS BiOp, which, at least facially, appears to have attempted to address the failures of
 13 the past by adjusting the mandated approach to temperature management so as to account for
 14 where the fish in need of protection are actually located in any given year¹⁰ and by conserving
 15 cold water for the most critical times for incubating eggs, while also attempting, where possible,
 16 to provide suitable spawning conditions for those spring-run that spawn in the Upper Sacramento.

17 The court will assume, without yet deciding, that PCFFA has also made a showing
 18 sufficient to raise serious questions as to the validity of the 2019 NMFS BiOp that might
 19 empower the court to enter injunctive relief in the Upper Sacramento River if otherwise
 20 supported.¹¹ Here, for reasons of efficiency, the court will focus first on the issue of irreparable

21 ¹⁰ The court recognizes that PCFFA is concerned that this approach improperly constricts the
 22 habitat of these species to an ever-shrinking space. (*See* Rosenfield Decl. at ¶ 166.) Whether this
 23 is something this court, or anyone else, can have any impact upon with respect to this water year
 remains entirely unclear to the court.

24 ¹¹ The court already found that PCFFA has raised serious questions with regard to how the 2019
 25 NMFS BiOp’s loss thresholds purport to control losses of CCV steelhead in the south Delta.
 26 (Doc. No. 106 at 22, 25.). It is an open question whether that finding would be sufficient to raise
 27 a serious question related to a request for injunctive relief in a different geographic area (the
 28 Upper Sacramento River) as to a different species. The court may not have to answer that
 question, since it is of the tentative opinion that PCFFA has pointed to sufficiently significant
 problems with the new tiered approach to directly satisfy the “serious questions” standard as to its
 request for injunctive relief aimed at Shasta Dam temperature management.

1 harm. PCFFA has pointed to evidence of record—including information provided within the
 2 2019 BiOp itself—indicating that the temperature management approach set forth in that BiOp
 3 will permit temperature dependent mortality at levels the already imperiled winter-run cannot
 4 sustain. (*See* Rosenfield Decl. ¶¶ 178 (describing temperature related egg mortality permitted by
 5 2019 NMFS BiOp as “extraordinarily high”); 183 (explaining that the 2019 NMFS BiOp allows
 6 levels of mortality to winter-run that should not even be permitted for a single year to occur in
 7 multiple years, a scenario that “is simply not consistent with preventing jeopardy to that
 8 species”). Having carefully examined the record, the court believes that plaintiffs have presented
 9 sufficient evidence to at least warrant further inquiry into whether irreparable harm will occur as a
 10 result of the implementation of the 2019 NFMS BiOp and therefore whether narrowly tailored
 11 injunctive relief is warranted under the circumstances. However, the vast majority of the
 12 evidence cited by PCFFA in support of its remaining request is based on information about
 13 average mortality trends and is not specific to the conditions presented at this time of this year.¹²
 14 Moreover, the court is not yet satisfied that plaintiffs have shown that reversion to the prior
 15 temperature management regime will provide any better protection for the winter run during the
 16 period of time between now and when the court can rule on the merits of this action.

17 The court recognizes that even if the temperature management requirements of the 2009
 18 NMFS BiOp were in place, some (sometimes significant) temperature dependent mortality has
 19 occurred historically during dry years such as this one. (*See* BA 5-29, Figure 5.6-23 (comparing
 20 estimated winter run temperature dependent egg mortality using 1922 through 2002 data under
 21 the 2009 NMFS BiOp versus the Proposed Action).) In addition, the record suggests there are
 22 real-world tradeoffs involved in temperature management. For example, generally, under the
 23 tiered approach, keeping water temperatures low in the summer may mean that water
 24 temperatures are higher than they might otherwise be in September and October, with resulting
 25 risk (and likely egg mortality) for later-spawning winter run and those spring-run that spawn in
 26 the mainstem Sacramento River. (*See* generally Rosenfield Decl. at ¶¶ 162–64 (table showing

27
 28 ¹² Nor could plaintiff PCFFA be fairly expected to do so, in significant part because, as discussed
 below, the final temperature management plan for this coming season has not yet been released.

1 simulated temperature differentials between operations under the 2019 NMFS BiOp and those
2 authorized under the 2009 NMFS BiOp); *see also id.* at ¶ 165 (discussing NMFS’s general
3 conclusion that operations under the 2019 NMFS BiOp will result in mortality of spring-run eggs
4 and fry in the Upper Sacramento River in the late summer and fall).) Notably, however, the
5 evidence cited by Dr. Rosenfeld suggests that *in a dry year*, temperatures under the tiered
6 approach would actually be lower on average through October under the 2019 NMFS BiOp than
7 they would be were the 2009 NMFS BiOp to be enforced. (*Id.*) In the same vein, modeling
8 performed by Reclamation suggests operations under the 2019 NMFS BiOp will result in lower
9 temperature dependent mortality in all but some above-normal (i.e., wetter) year types relative to
10 mortality that would have occurred in that majority of years under the 2009 NMFS BiOp. (*See*
11 BA at 5-27.)

12 A central question, therefore, is both a very complicated and practical one: would
13 replacing the 2019 NMFS BiOp’s temperature management regime produce a material benefit for
14 the winter run and, relatedly, how would those changes likely impact spring run? But that is not
15 all. The court is also concerned that what PCFFA is really asking for is an injunction that would
16 require Reclamation to perform temperature management feats that are neither practically or
17 legally feasible, either because there simply is not enough cold water to accomplish a revised plan
18 or because Reclamation cannot (due to legal or contractual restrictions) make adjustments to the
19 allocations or deliveries sufficient to result in a practical difference in how that cold water is
20 utilized. The court attempted to question counsel for PCFFA on this issue during the May 7,
21 2020 by inquiring whether PCFFA could point to evidence in the record demonstrating whether it
22 was possible for NMFS to satisfy the 2009 standard. (Tr. at 147.) In response, PCFFA pointed
23 generally to the fact that NMFS has in the past “required” Reclamation to reduce allocations to
24 meet temperature targets. (*Id.*) Following the May 7 hearing, the court has been able to locate
25 one letter from NMFS to Reclamation indicating that, in that year under the specific conditions
26 presented, NMFS refused to concur with Reclamation’s initial allocations to certain water users,
27 suggesting that NMFS at least thought Reclamation could make further adjustments to improve
28 the temperature management situation for the year in question. (PCFFA, Doc. No. 153-6 at 4-5.)

1 That said, NMFS's failure to concur with Reclamation's initial plan in 2018 is not specific to the
 2 conditions present this year. Moreover, it is not clear from the record what, if anything,
 3 Reclamation did in response to NMFS's 2018 letter.¹³

4 In addition, at the May 7 hearing PCFFA suggested that all of Reclamation's temperature
 5 modeling scenarios assumed "the same amount of diversions and deliveries," presumably in an
 6 attempt to establish that Reclamation has never considered making adjustments to its "diversions
 7 or deliveries." (Tr. 78–79.) However, Reclamation's witness testified at that hearing that spring
 8 releases were, at least primarily, to satisfy senior water rights holders, with "little flow going to
 9 . . . our water service contractors" during that time period. (*Id.* at 81 (also admitting that these
 10 spring releases can impact the cold water pool).) In sum, the extent to which Reclamation can, in
 11 reality, materially improve the availability of cold water remains entirely unclear.¹⁴

12 This brings us to the present situation. First, the court recognizes that as of the date of this
 13 order, Reclamation has not even finalized its temperature management plan for the season. (*See*
 14 Doc. No. 168-1 at 7 (Reclamation indicating that it anticipates finalizing its Temperature
 15 Management Plan on or about May 20, 2020).) Presumably, the final temperature management
 16 plan will be accompanied by an updated analysis of likely instream temperatures and temperature
 17 related mortality, along with overall survival estimates. Without this final information for this
 18 year, the record before the court lacks specificity as to the likely impacts of operations this
 19 summer and fall. The court shares PCFFA's concerns over initial evaluations, including that
 20 performed by the Salmon Monitoring Team in late March 2020 based upon then-current
 21 conditions. That March evaluation seemed to indicate a range of anticipated temperature
 22 dependent mortality in the range of 47-75%, a level that would have exceeded the performance
 23 goals set forth in the 2019 NMFS BiOp. (PCFFA, Doc. 153-5 at 31.) However, more recent

24 ¹³ The court tentatively is of the opinion that the reality is more complex than this given the
 25 numerous constraints (both legal and contractual) Reclamation operates under.

26 ¹⁴ This evidence also makes the court more comfortable in concluding that it needs more
 27 information before resolving the remaining aspect of the pending motion for preliminary
 28 injunction, even though that will also require additional time. PCFFA has not come forward with
 any evidence suggesting that Reclamation could make changes in the near-term that would
 materially alter the temperature management situation.

documents show an improving situation (or at least improved modeling results). For example, when Reclamation submitted its draft temperature management plan to California’s State Water Resources Control Board on April 30, 2020, it presented temperature modeling that appears to be more protective than the scenarios considered by the Salmon Monitoring Team in late March. (*Compare id. with PCFFA*, Doc. No. 168-2 at 4-5.) The April 30, 2020 document predicts temperature dependent mortality in the range of 27-28%. (*PCFFA*, Doc. No. 168-2 at 10), which would fall below the average temperature related mortality anticipated by NMFS in a Tier 3 year according to the 2019 NMFS BiOp. (2019 NMFS BiOp at 801) (anticipating an average temperature dependent mortality of 34%).) As mentioned, PCFFA’s expert, Dr. Rosenfield, has opined that the temperature dependent egg mortality rates anticipated in the BiOp are “extraordinarily high” relative to historic levels because “historically, Chinook Salmon would be expected to lose very few eggs to high temperatures alone,” but he nonetheless fails to address the practical issue of whether mortality rates are capable of being better controlled under the circumstances presented this year. (Rosenfield Decl. at ¶ 171.) Without more, the court would simply be left to speculate whether the anticipated temperature dependent mortality this year is or is not aligned with temperature dependent mortality in similar dry years under the 2009 NMFS BiOp.

CONCLUSION

For all these reasons, before proceeding to resolve the remaining aspect of the pending motion the court will require the submission of the following additional information:

- (1) First, within 24 hours of its issuance, Reclamation will be required to submit the final temperature monitoring plan along with any supporting analyses related to temperature dependent mortality.
- (2) In addition, within four days of the issuance of the final temperature management plan, Federal Defendants shall submit a supplemental declaration explaining what, if any, efforts Reclamation has undertaken this water year to model scenarios that might have enabled it to provide better temperature conditions (and, relatedly, lower temperature dependent mortality) in the Upper Sacramento River. In so doing,

1 Federal Defendants should attempt to explain with clarity how Reclamation considers
2 its various obligations (discretionary and non-discretionary) in modeling such
3 scenarios.

4 (3) Once that information is in hand, in order to determine whether planned operations
5 under the Proposed Action and 2019 NMFS BiOp in coming weeks and months are
6 likely to result in harms above and beyond those that would occur under any
7 alternative framework, the court will require additional information from PCFFA,
8 should PCFFA determine it is appropriate to proceed with the remaining aspect of its
9 motion. Specifically, PCFFA must articulate, with specificity:

- 10 a. what is it that PCFFA is requesting by way of an injunction;
- 11 b. an explanation of how, under present conditions (i.e., not based solely upon
12 rough projections set forth in the 2019 NMFS BiOp), the requested injunction
13 would benefit the species of concern;
- 14 c. identify and assess the possible tradeoffs in terms of impacts (i.e. to spring run
15 or other species) that would likely have to be made if the requested injunction
16 were imposed ; and
- 17 d. at least a basic showing, understanding that PCFFA may not have access to all
18 of the relevant information, that Reclamation has the ability and sufficient
19 discretionary authority (i.e., is not constrained by other legal or contractual
20 requirements) to implement the requested relief.

21 (4) Should PCFFA choose to proceed with the remaining aspect of its pending motion, it
22 must address the above issues in a supplemental brief no longer than ten pages in
23 length, exclusive of supporting documentation, within seven (7) days of the filing of
24 Federal Defendants' supplemental declaration. Thereafter, Federal Defendants shall
25 have seven (7) days to file a response of equal or lesser length. Defendant Intervenor
26 shall coordinate to file a single (or multiple) briefs that do not exceed ten pages in
27 length total.

28 /////

1 (5) If, in light of the content of the final temperature management plan, or for any other
2 reason, PCFFA decides not to further pursue the remaining aspect of its request for
3 injunctive relief, it shall so notify the court by the above deadline. The court will
4 make every effort thereafter to resolve this case on the merits in as expeditious a
5 manner as possible.

6 IT IS SO ORDERED.

7 Dated: May 18, 2020

8 
UNITED STATES DISTRICT JUDGE